I Claim:

1. A method of converting, comprising:

receiving m-bit information words, where m is an integer;

converting the m-bit information words into n-bit code words, where n is an integer greater than m, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is converted into an n-bit code word of the first or second kind if the previous m-bit information word was converted into an n-bit code word of the first type and is converted into an n-bit code word of the first kind if the previous m-bit information word was converted into an n-bit code word of the second type.

2. The method of claim 1, wherein the converting step converts the m-bit information words into n-bit code words that satisfy a dk-constraint, where d indicates a minimum number of zeros between consecutive ones in the n-bit code words and k indicates a maximum number of zeros between consecutive ones in the n-bit code words.

3. The method of claim 2, wherein m/n is greater than 2/3, and d = 1.

4. The method of claim 2, wherein d = 1.

5. The method of claim 2, wherein the n-bit code words are divided into p coding states of the first kind and q coding states of the second kind, where p and q are integers greater than or equal to 1, and each of the p and q coding states have n-bit code words different from the n-bit code words in the other p and q coding states.

6. The method of claim 5, wherein m/n is greater than 2/3, d = 1, p = 3 and q = 2.

7. The method of claim 5, wherein p = 3 and q = 2.

8. The method of claim 5, wherein p+q equals 5.

9. The method of claim 5, wherein m/n is greater than 2/3, d = 1, p = 8 and q = 5.

10. The method of claim 5, wherein p = 8 and q = 5.

11. The method of claim 5, wherein p+q equals 13.

12. The method of claim 5, wherein at least one of the n-bit code words in one of the p coding states is associated with p+q of the m-bit information words.

13. The method of claim 12, wherein at least one of the n-bit code words in one of the q coding states is associated with p of the m-bit information words.

14. The method of claim 5, wherein at least one of the n-bit code words in one of the q coding states is associated with p of the m-bit information words.

15. The method of claim 1, wherein the n-bit code words are divided into p coding states of the first kind and q coding states of the second kind, where p and q are integers greater than or equal to 1, and each of the p and q coding states have n-bit code words different from the n-bit code words in the other p and q coding states.

16. The method of claim 15, wherein p+q equals 5.

17. The method of claim 15, wherein p+q equals 13.

18. The method of claim 15, wherein at least one of the n-bit code words in one of the p coding states is associated with p+q of the m-bit information words.

19. The method of claim 18, wherein at least one of the n-bit code words in one of the q coding states is associated with p of the m-bit information words.

20. The method of claim 15, wherein at least one of the n-bit code words in one of the q coding states is associated with p of the m-bit information words.

21. The method of claim 1, wherein the n-bit code words of the first type end in zero, the n-bit code words of the second type end in one, the n-bit code words in a coding state of the first kind start with zero, and the n-bit code words in a coding state of the second kind start with zero or one.

22. The method of claim 1, wherein the n-bit code words of the first type end in zero, and the n-bit code words of the second type end in one.

23.The method of claim 1, wherein the n-bit code words in a coding state of the first kind start with zero, and the n-bit code words in a coding state of the second kind start with zero or one.

24. The method of claim 1, wherein the converting step converts at a coding rate of m/n, which is greater than 2/3.

25. The method of claim 24, wherein n is equal one of 13, 16, and 19.

26. The method of claim 24, wherein m is equal to one of 9, 11, and 13.

27. The method of claim 1, further comprising:

generating a modulated signal from the n-bit code words.

28. The method of claim 27, further comprising:

recording the modulated signal in a recording medium.

29. The method of claim 27, further comprising:

transmitting the modulated signal.

30. The method of claim 1, wherein the converting step converts the m-bit information words into the n-bit code words using a translation table.

31. A method of converting, comprising:

receiving m-bit information words, where m is an integer;

converting the m-bit information words into n-bit code words, where n is an integer greater than m, at a coding rate m/n greater than 2/3.

32. A method of converting, comprising:

receiving m-bit information words, where m is an integer;

converting the m-bit information words into n-bit code words that satisfy a dk-constraint, where n is an integer greater than m, d indicates a minimum number of zeros between consecutive ones in the n-bit code words and k indicates a maximum number of zeros between consecutive ones in the n-bit code words, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is converted into an n-bit code word of the first or second kind if the previous m-bit information word was converted into an n-bit code word of the first type and is converted into an n-bit code word of the first kind if the previous m-bit information word was converted into an n-bit code word of the second type, the n-bit code words of the first type ending in zero, the n-bit code words of the second type ending in one, the n-bit code words in a coding state of the first kind starting with zero and the n-bit code words in a coding state of the second kind starting

with zero or one, and the n-bit code words being divided into p coding states of the first kind and q coding states of the second kind, where p and q are integers greater than or equal to 1, and each of the p and q coding states have n-bit code words different from the n-bit code words in the other p and q coding states.

33. A coding device, comprising:

a converter receiving m-bit information words, where m is an integer and converting the m-bit information words into n-bit code words, where n is an integer greater than m, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is converted into an n-bit code word of the first or second kind if the previous m-bit information word was converted into an n-bit code word of the first type and is converted into an n-bit code word of the first kind if the previous m-bit information word was converted into an n-bit code word of the second type.

34. The coding device of claim 33, wherein the converter receives a coding state with each m-bit information word and converts the m-bit information word into the n-bit code word based on the coding state.

35. The coding device of claim 34, further comprising:

a buffer supplying the coding state to the converter; and wherein

the converter determines the coding state for the next m-bit information word as part of the converting process, and stores the determined coding state in the buffer.

36. The coding device of claim 35, wherein the converter converts the m-bit information word into the n-bit code word and determines the coding state using a translation table.

37. The coding device of claim 33, further comprising:

a modulator generating a modulated signal from the n-bit code words.

38. The coding device of claim 37, further comprising:
a recording device recording the modulated signal in a recording medium.

39. The coding device of claim 37, further comprising:
a transmitter transmitting the modulated signal.

40. A method of manufacturing a recording medium, comprising:

converting m-bit information words into n-bit code words, where n is an integer greater than m, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is converted into an n-bit code word of the first or second kind if the previous m-bit information word was converted into an n-bit code word of the first type and is converted into an n-bit code word of the first kind if the previous m-bit information word was converted into an n-bit code word of the second type;

generating a modulated signal from the n-bit code words; and

recording the modulated signal in a recording medium.

41. A recording medium having a modulated signal recorded in a track, the modulated signal including signal portions representing n-bit code words, where n is an integer, each n-bit code word representing an m-bit information word, where m is an integer less than n, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is represented by an n-bit code word of the first or second kind if the previous m-bit information word is represented by an n-bit code word of the first type and is represented by an n-bit code word of the first kind if the

previous m-bit information word is represented by an n-bit code word of the second type.

42. The recording medium of claim 41, wherein the signal portions represent the n-bit code words such that each successive n-bit code word partially instructs a reproducing device on which of at least two m-bit information words are represented by each previous n-bit code word.

43. A modulated signal, comprising:

signal portions representing n-bit code words, where n is an integer, each n-bit code word representing an m-bit information word, where m is an integer less than n, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is represented by an n-bit code word of the first or second kind if the previous m-bit information word is represented by an n-bit code word of the first type and is represented by an n-bit code word of the first kind if the previous m-bit information word is represented by an n-bit code word of the second type.

44. The modulated signal of claim 43, wherein the signal portions represent the n-bit code words such that each successive n-bit code word partially instructs a reproducing device on which of at least two m-bit information words are represented by each previous n-bit code word.

45. A method of decoding, comprising:

receiving n-bit code words, where n is an integer;

converting the n-bit code words into m-bit information words, where m is an integer less than n, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is represented by an n-bit code word of the first or second

kind if the previous n-bit code word is of the first type and is represented by an n-bit code word of the first kind if the previous n-bit code word is of the second type.

46. The method of claim 45, wherein the n-bit code words are divided into p coding states of the first kind and q coding states of the second kind, where p and q are integers greater than or equal to 1, and each of the p and q coding states have n-bit code words different from the n-bit code words in the other p and q coding states.

47. The method of claim 46, wherein the converting step determines to which of the p and q coding states a next n-bit code word belongs, and converts a current n-bit code word into an m-bit information word based on the determined coding state.

48. The method of claim 47, wherein at least one of the p and q coding states includes more than one of a same n-bit code word, the same n-bit code word maps to more than one of the m-bit information words, and each same n-bit code word has a different state direction associated therewith, each state direction indicating a next one of the p and q coding states from which to obtain the next n-bit code word when converting the m-bit information words into the n-bit code words.

49. The method of claim 48, wherein the n-bit code words satisfy a dk-constraint, where d indicates a minimum number of zeros between consecutive ones in the n-bit code words and k indicates a maximum number of zeros between consecutive ones in the n-bit code words.

50. The method of claim 49, wherein m/n is greater than 2/3, and d = 1.

51. The method of claim 50, wherein p+q equals 5.

52. The method of claim 50, wherein p+q equals 13.

53. The method of claim 49, wherein the n-bit code words of the first type end in zero, the n-bit code words of the second type end in one, the n-bit code words in a coding state of the first kind start with zero, and the n-bit code words in a coding state of the second kind start with zero or one.

54. The method of claim 45, further comprising:

receiving a modulated signal; and

demodulating the modulated signal into at least the n-bit code words.

55. The method of claim 45, further comprising:

reproducing a modulated signal from a recording medium; and

demodulating the modulated signal into at least the n-bit code words.

56. A method of decoding, comprising:

receiving n-bit code words, where n is an integer;

determining a coding state of a next n-bit code word; and

converting a current n-bit code word into an m-bit information word, where m is an integer less than n, based on the determined coding state.

57. The method of claim 56, wherein each n-bit code word belongs to a coding state, at least one of the coding states includes more than one of a same n-bit code word, the same n-bit code word maps to more than one of the m-bit information words, and each same n-bit code word has a different state direction associated therewith, each state direction indicating a next one of the coding states from which to obtain the next n-bit code word when converting the m-bit information words into the n-bit code words.

58. The method of claim 56, further comprising:
receiving a modulated signal; and
demodulating the modulated signal into at least the n-bit code words.

59. The method of claim 56, further comprising:
reproducing a modulated signal from a recording medium; and
demodulating the modulated signal into at least the n-bit code words.

60. A decoding device, comprising:
a converter receiving n-bit code words, where n is an integer, and converting the n-bit code words into m-bit information words, where m is an integer less than n, the n-bit code words being divided into a first type and a second type and into coding states of a first kind and a second kind such that an m-bit information word is represented by an n-bit code word of the first or second kind if the previous n-bit code word is of the first type and is represented by an n-bit code word of the first kind if the previous n-bit code word is of the second type.

61. The decoding device of claim 60, wherein the n-bit code words are divided into p coding states of the first kind and q coding states of the second kind, where p and q are integers greater than or equal to 1, and each of the p and q coding states have n-bit code words different from the n-bit code words in the other p and q coding states.

62. The decoding device of claim 61, wherein the converter determines to which of the p and q coding states a next n-bit code word belongs, and converts a current n-bit code word into an m-bit information word based on the determined coding state.

63. The decoding device of claim 62, wherein at least one of the p and q coding states includes more than one of a same n-bit code word, the same n-bit code

word maps to more than one of the m-bit information words, and each same n-bit code word has a different state direction associated therewith, each state direction indicating a next one of the p and q coding states from which to obtain the next n-bit code word when converting the m-bit information words into the n-bit code words.

64. The decoding device of claim 63, wherein the n-bit code words satisfy a dk-constraint, where d indicates a minimum number of zeros between consecutive ones in the n-bit code words and k indicates a maximum number of zeros between consecutive ones in the n-bit code words.

65. The decoding device of claim 64, wherein m/n is greater than 2/3, and d = 1.

66. The decoding device of claim 65, wherein p+q equals 5.

67. The decoding device of claim 65, wherein p+q equals 13.

68. The decoding device of claim 64, wherein the n-bit code words of the first type end in zero, the n-bit code words of the second type end in one, the n-bit code words in a coding state of the first kind start with zero, and the n-bit code words in a coding state of the second kind start with zero or one.

69. The decoding device of claim 60, further comprising:

a demodulator receiving a modulated signal and demodulating the modulated signal into at least the n-bit code words.

70. The decoding device of claim 60, further comprising:

a reproducing device reproducing a modulated signal from a recording medium, and demodulating the modulated signal into at least the n-bit code words.

71. A decoding device, comprising:

a first translator receiving a next n-bit code words, where n is an integer, and determining a coding state of the next n-bit code word;

a second translator receiving a current n-bit code word and the determined coding state, and converting the current n-bit code word into an m-bit information word, where m is an integer less than n, based on the determined coding state.

72. The decoding device of claim 71, wherein each n-bit code word belongs to a coding state, at least one of the coding states includes more than one of a same n-bit code word, the same n-bit code word maps to more than one of the m-bit information words, and each same n-bit code word has a different state direction associated therewith, each state direction indicating a next one of the coding states from which to obtain the next n-bit code word when converting the m-bit information words into the n-bit code words.

73. The decoding device of claim 71, further comprising:

a demodulator receiving a modulated signal and demodulating the modulated signal into at least the n-bit code words.

74. The decoding device of claim 71, further comprising:

a reproducing device reproducing a modulated signal from a recording medium, and demodulating the modulated signal into at least the n-bit code words.